Tennessee's Greatest Challenge: Educating Tomorrow's Workforce

HC Excell

Mid-east Tennessee P-16 Council

May 17, 2007

Tennessee's current education system will not prepare our children for the new global workplace.

We must do better.

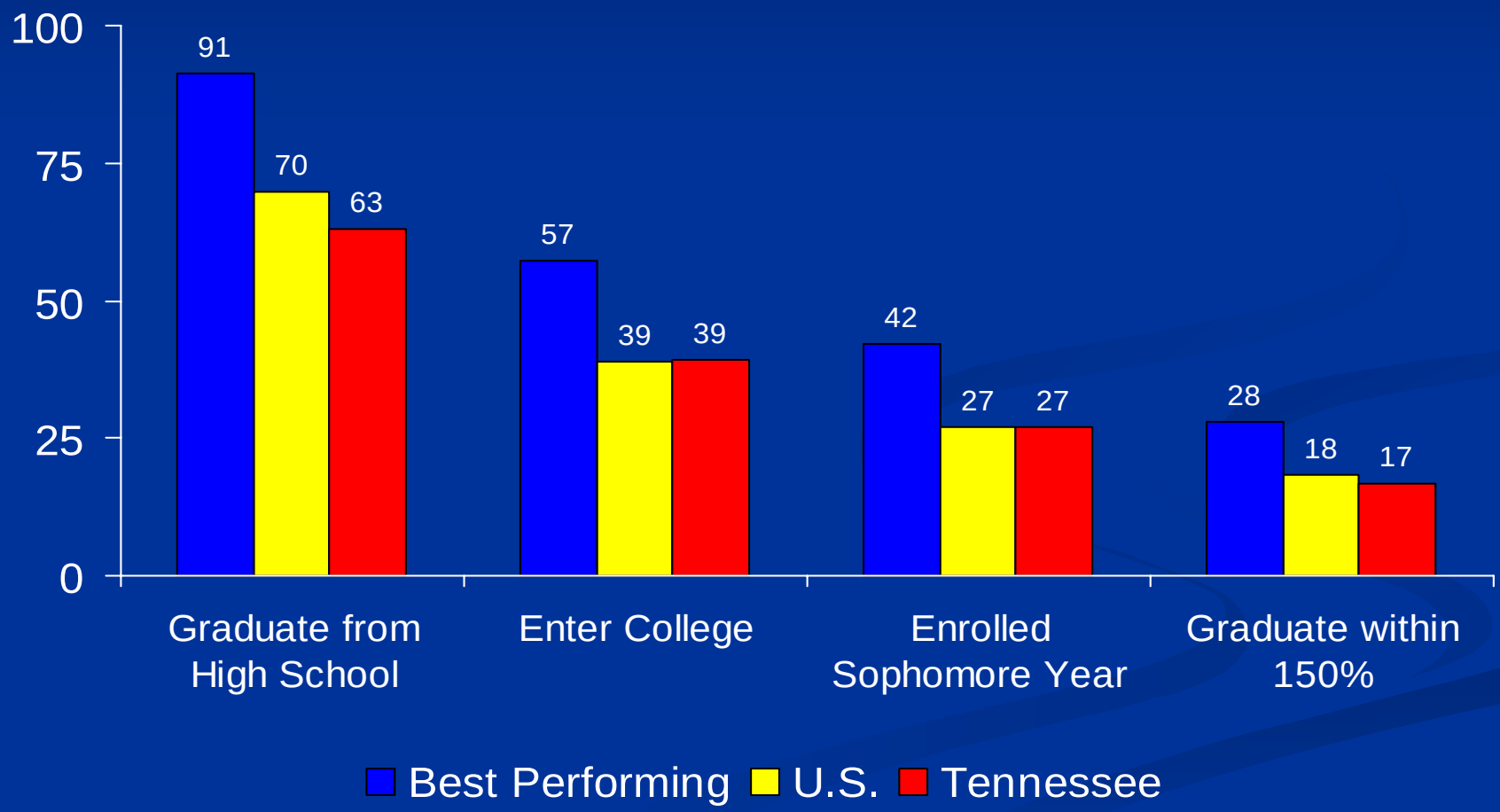
And, we can.

"When I compare our high schools to what I see when I'm traveling abroad, I am terrified for our work force of tomorrow. In math and science, our fourth graders are among the top students in the world. By eighth grade, they're in the middle of the pack. By 12th grade, U.S. students are scoring near the bottom of all industrialized nations. . . . The percentage of a population with a college degree is important, but so are sheer numbers. In 2001, India graduated almost a million more students from college than the United States did. China graduates twice as many students with bachelor's degrees as the U.S., and they have six times as many graduates majoring in engineering. In the international competition to have the biggest and best supply of knowledge workers, America is falling behind."

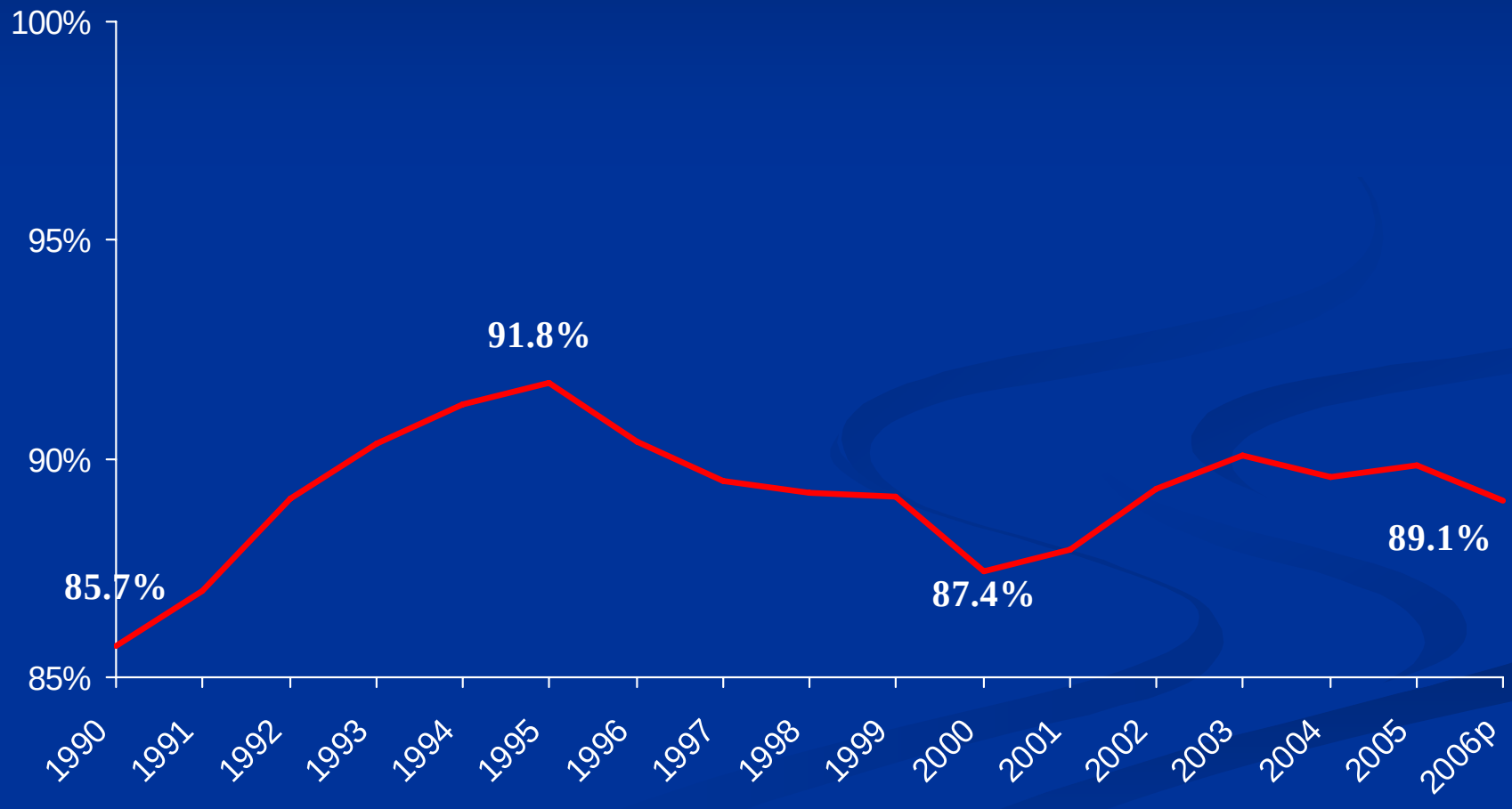
- Bill Gates, "America's High Schools are Obsolete" Speech given to National Governors Association, February 26, 2005

- A 2005 survey of manufacturers by National Association of Manufacturers found:
  - 84% do not believe K-12 schools are doing a good job
  - 80% of are experiencing a shortage of qualified workers; they need problem solving skills, reading, writing and communication skills
  - They want more investment in teacher education, science and math instruction, and career education in school
- For students in elementary school today, the majority of jobs they will hold do not exist (Jim Carroll)
- In today's global economy, work gets done where it is most effective and efficient (Thomas Freidman)

The Student Pipeline - Tennessee, 2004

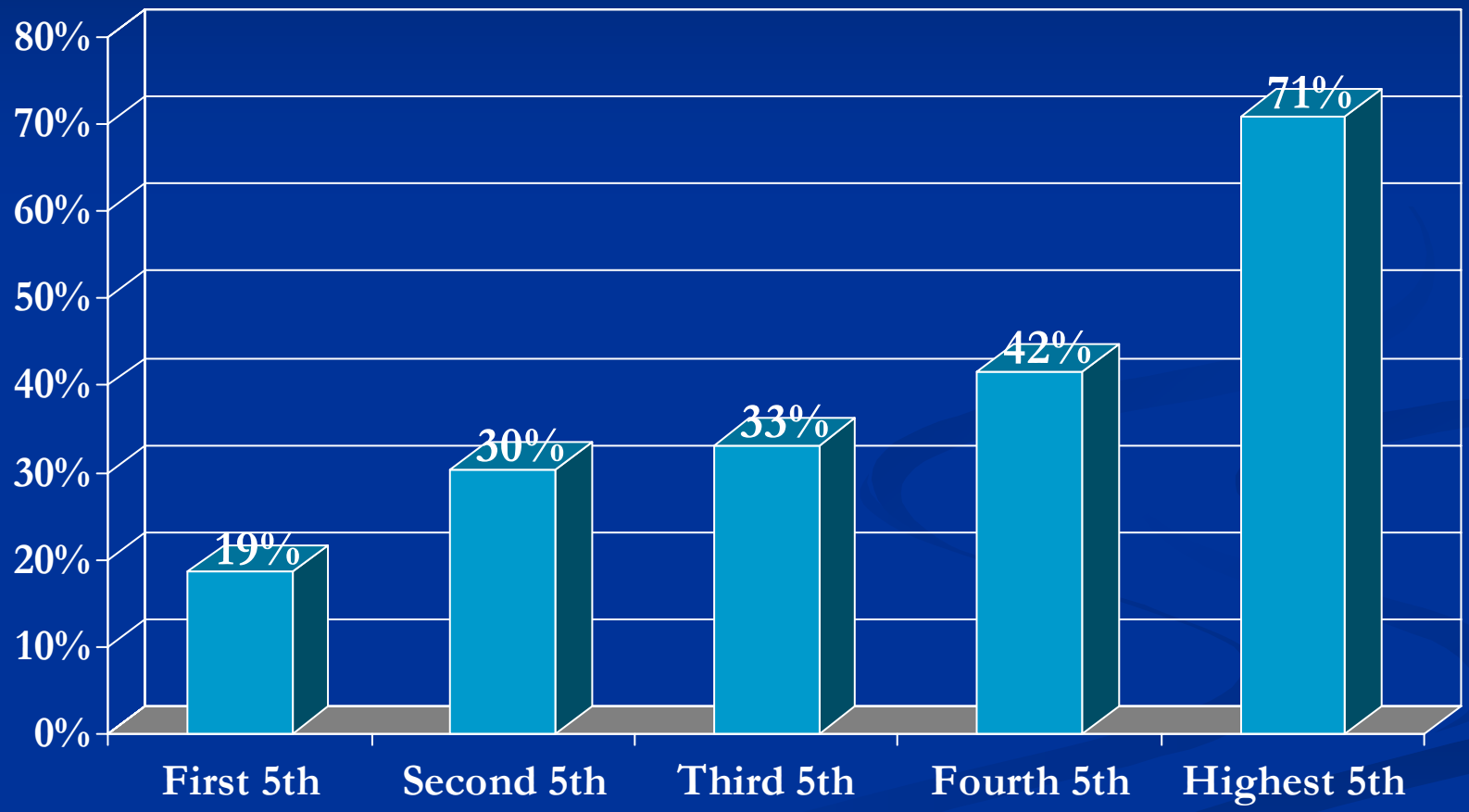


Tennessee Per Capita Income as a Percent of the U.S., 1990-2006



Source: Bureau of Economic Analysis.

Income Changes for Tennessee Families Early 1980s to Early 2000s, by quintiles



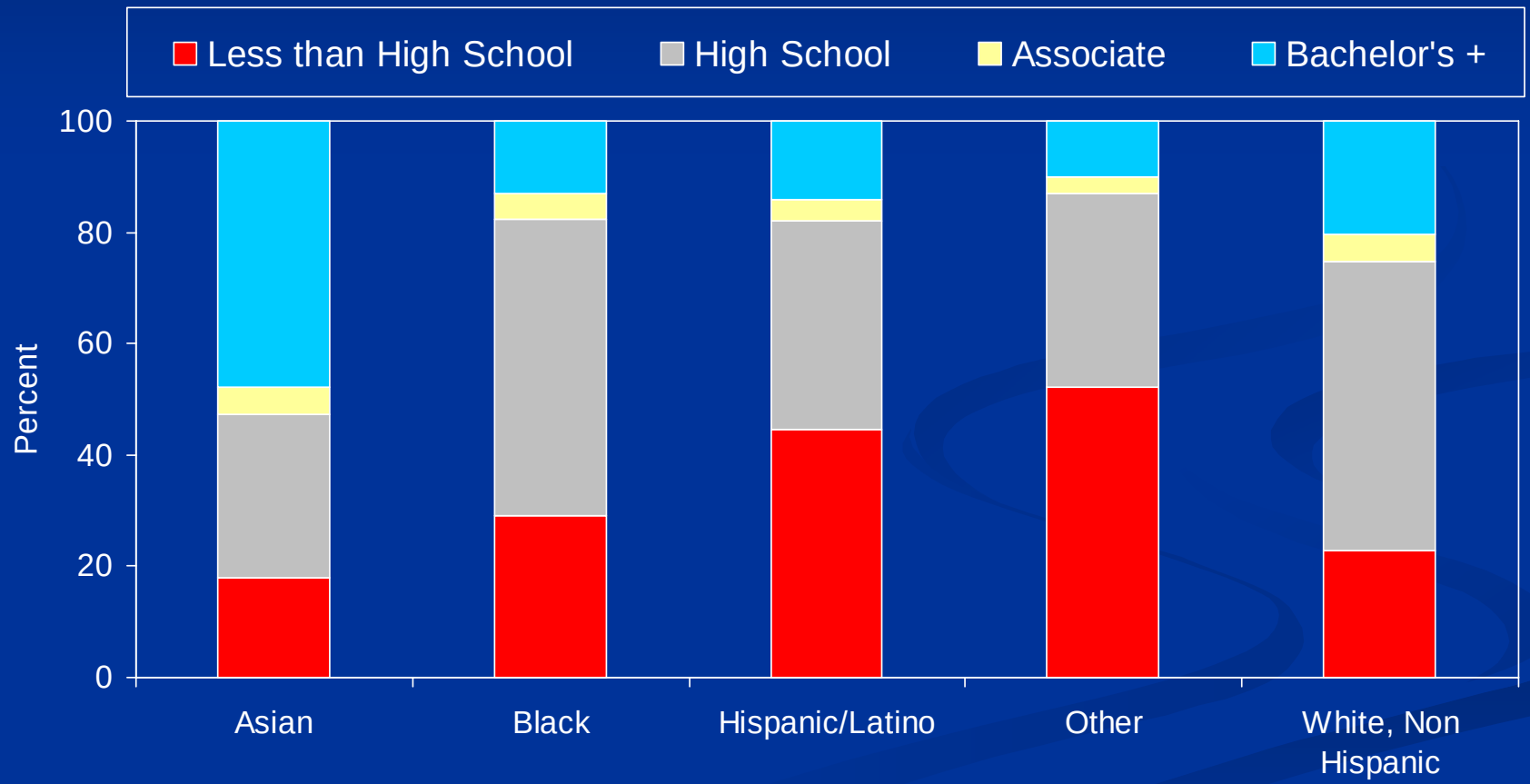
Source: Economic Policy Institute/Center on Budget and Policy Priorities, *Pulling Apart: A State by State Analysis of Income Trends*, January 2006.

Income Gaps, Early 2000's Tennessee

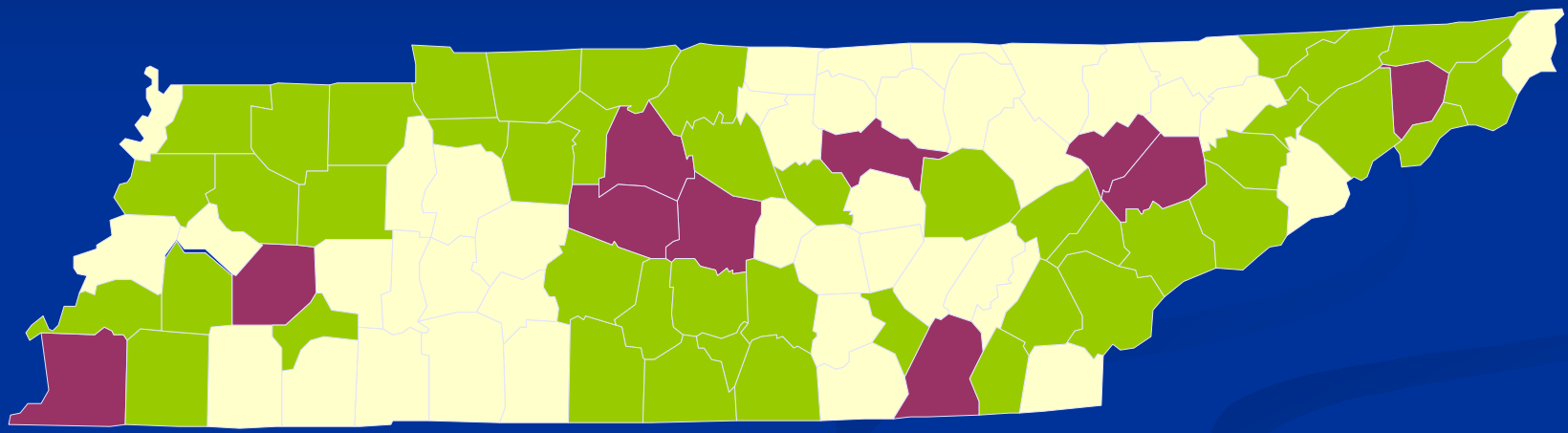
	Rank (1 is most unequal)
Richest 5th vs. Poorest 5th	**3**
Richest 5th vs. Middle 5th	**5**

Source: Economic Policy Institute/Center on Budget and Policy Priorities, *Pulling Apart: A State by State Analysis of Income Trends*, January 2006.

Educational Attainment In Tennessee, 2000



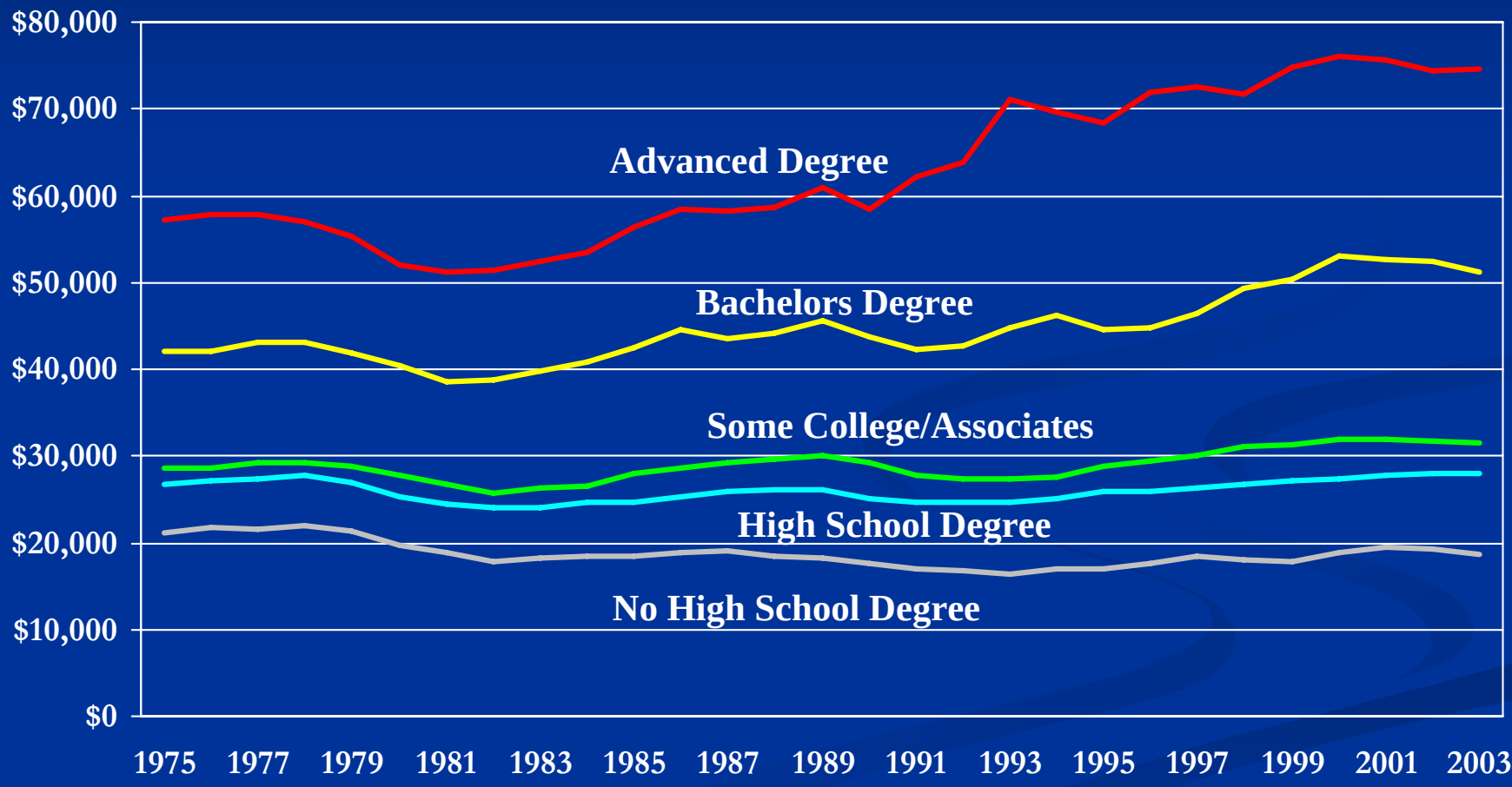
Educational Attainment of Persons 25 Years and Over, Percent With At Least A Bachelor's Degree, 2000



TN Average = 19.6%
U.S. Average = 24.4%

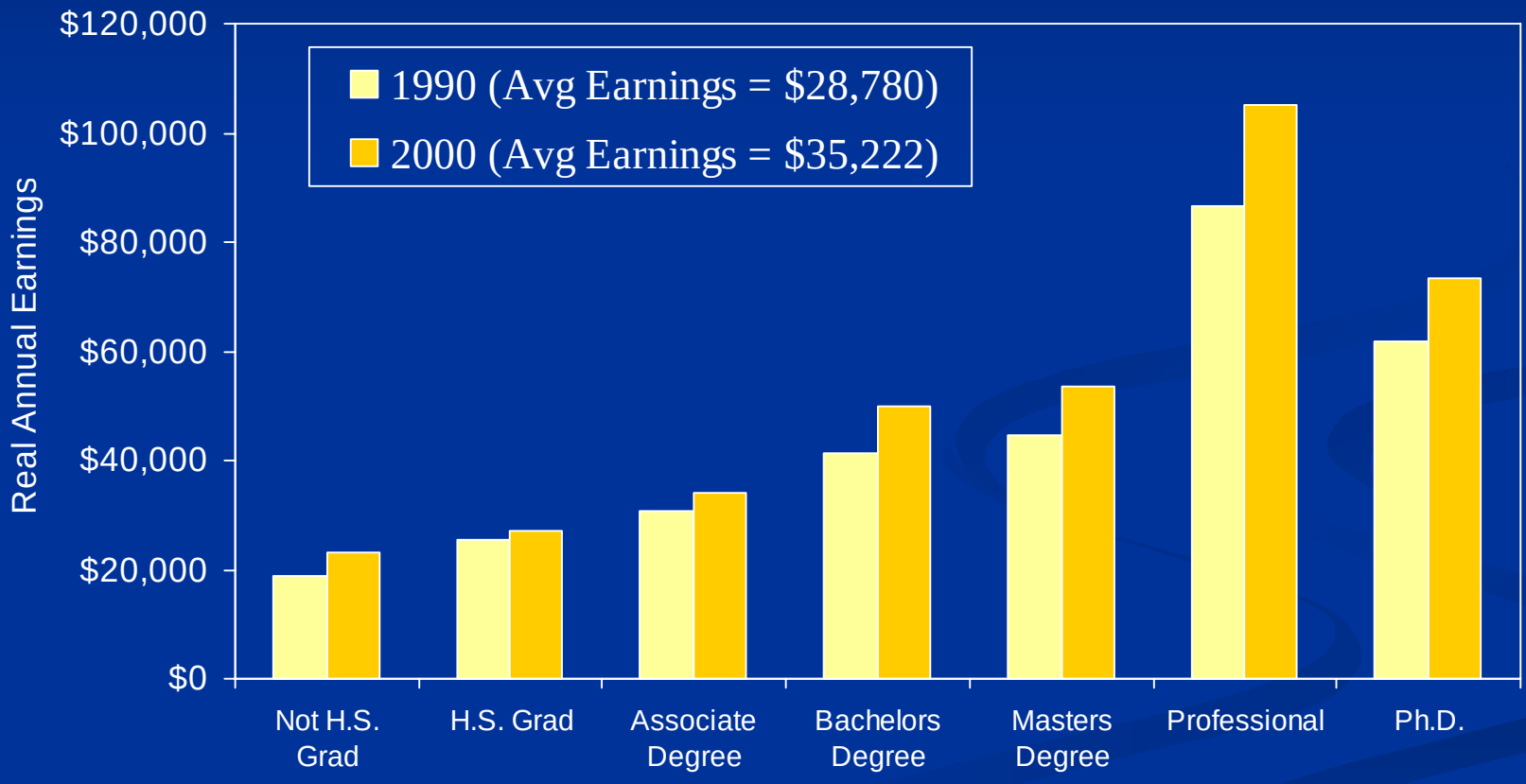
Less than 10.0% | 10.0% to 19.6% | Greater than 19.6%

Mean Earnings by Degree Level—Adjusted to 2003 Dollars (Using Consumer Price Index)



Source: U.S. Census Bureau, Bureau of Labor Statistics

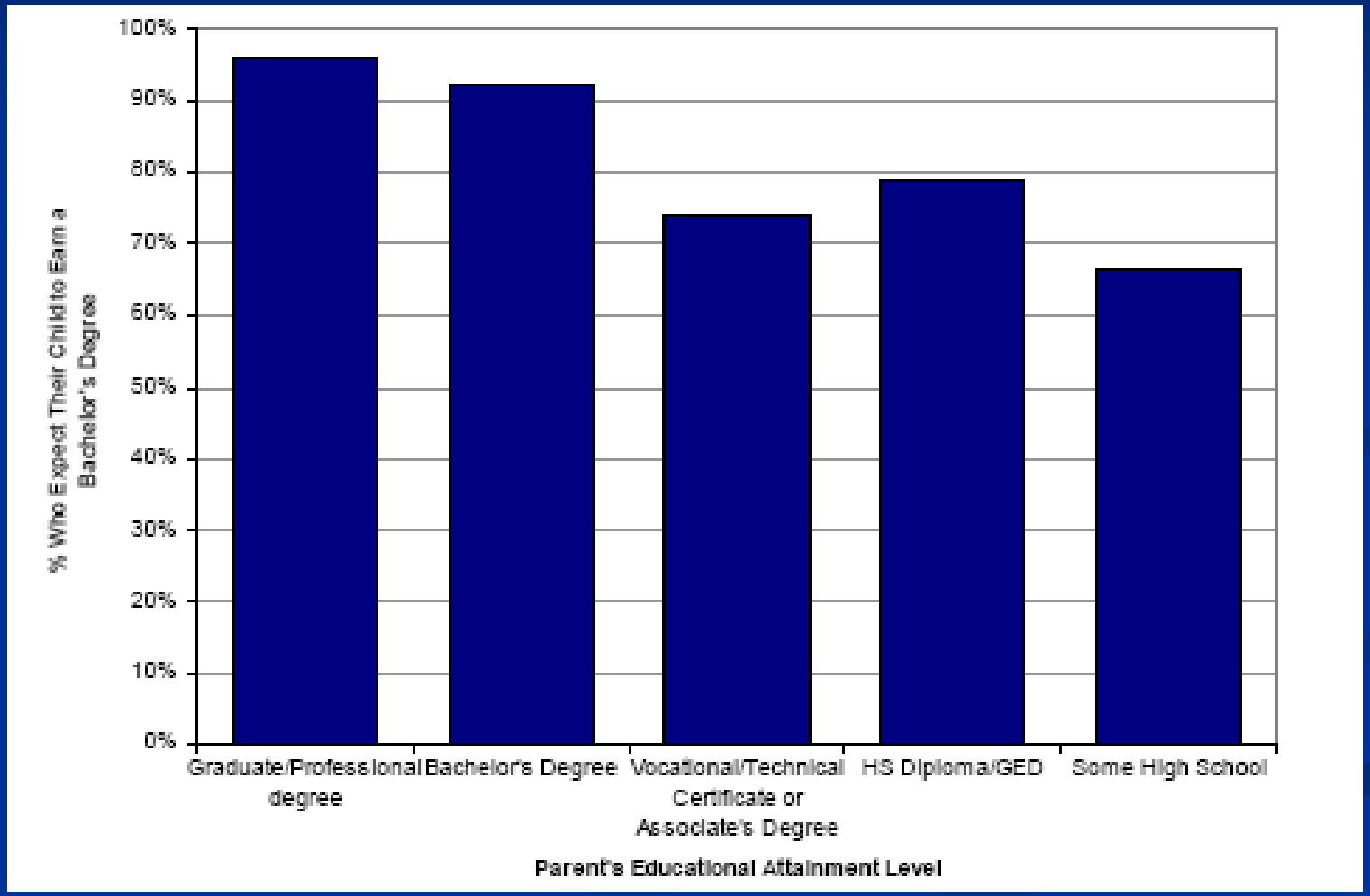
Educational Attainment And Economic Well-being (Real Average Earnings):
Tennesseans Aged 25 And Older



Source: CBER, UT

Percent of Parents Who Expect Their Children to Earn a Bachelor's Degree

By Educational Attainment Level



Source: Survey of Tennesseans' Attitudes About Education

K-8 Math Achievement

2004 Math State Report Card

	2003			2004		
CRT	**% Below Proficient**	**% Proficient**	**% Advanced**	**% Below Proficient**	**% Proficient & Advanced**	**% Proficient & Advanced 2 Yr Avg**
All Students	**20.1**	**49.5**	**30.4**	**17.0**	**83.0**	**81.0**
White	13.8	48.7	37.5	11.0	89.0	88.0
Hispanic	28.8	51.8	19.4	23.0	77.0	74.0
African American	37.5	51.7	10.8	31.0	69.0	66.0
Native American	21.0	51.3	27.7	15.0	85.0	82.0
Asian/Pacific Islander	9.2	39.4	51.4	7.0	93.0	92.0
Economically Disadvantaged	31.1	52.5	16.4	25.0	75.0	72.0
Students with Disabilities	62.2	31.1	6.7	55.0	45.0	42.0
Limited English Proficient	38.0	43.4	18.6	34.0	66.0	64.0

National Ranking of Difference between State Proficiency and NAEP Proficiency

Tennessee

46

Out of 50 states ranked on the difference between the share of 4th graders rated proficient on the state reading test, compared to the NAEP test (1= best, 50= worst)

Tennessee

49

Out of 50 states ranked on the difference between the share of 4th graders rated proficient on the state math test, compared to the NAEP test (1= best, 50= worst)

Tennessee

43

Out of 47 states ranked on the difference between the share of 8th graders rated proficient on the state reading test, compared to the NAEP test (1= best, 47= worst)

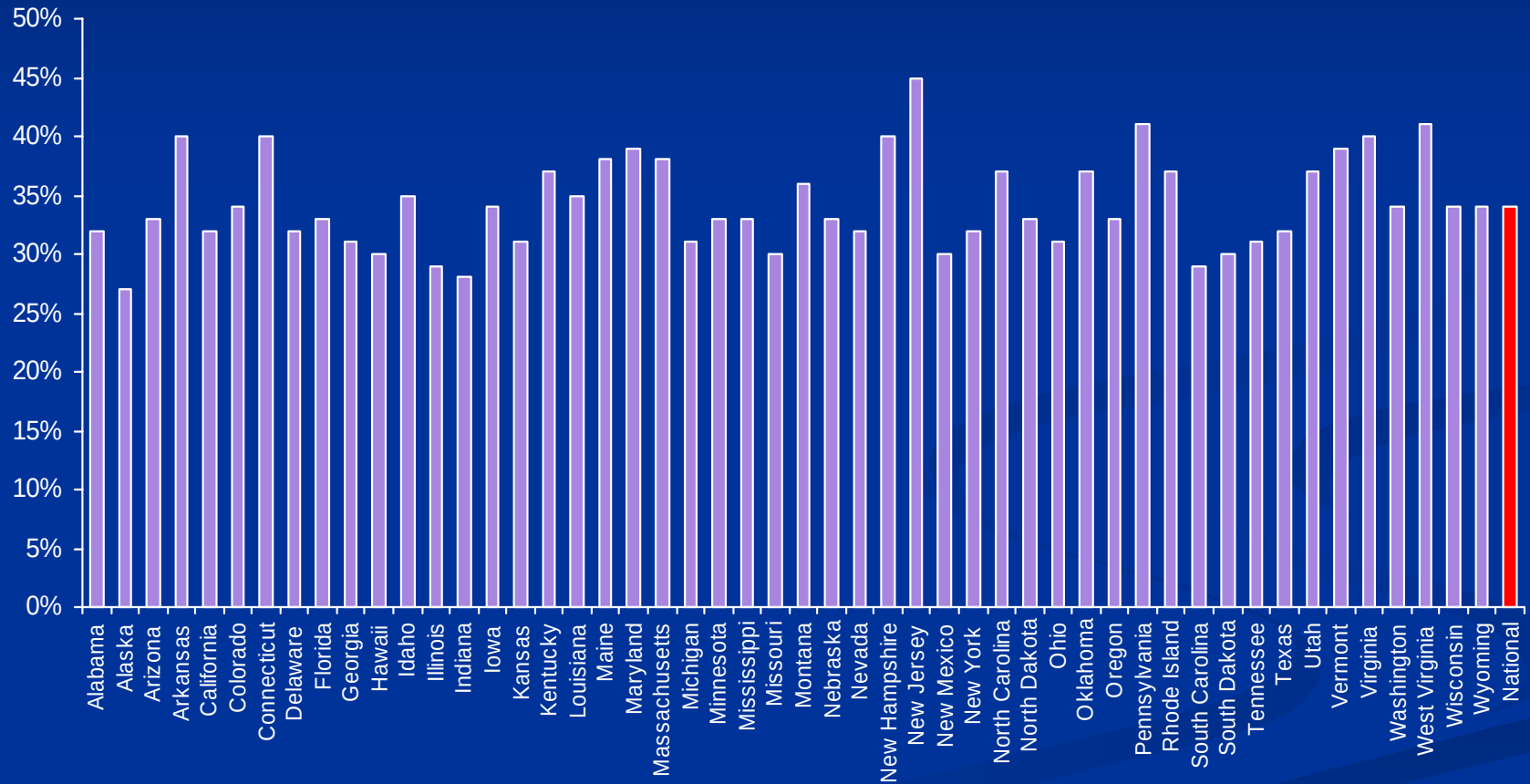
Tennessee

47

Out of 47 states ranked on the difference between the share of 8th graders rated proficient on the state math test, compared to the NAEP test (1= best, 47= worst)

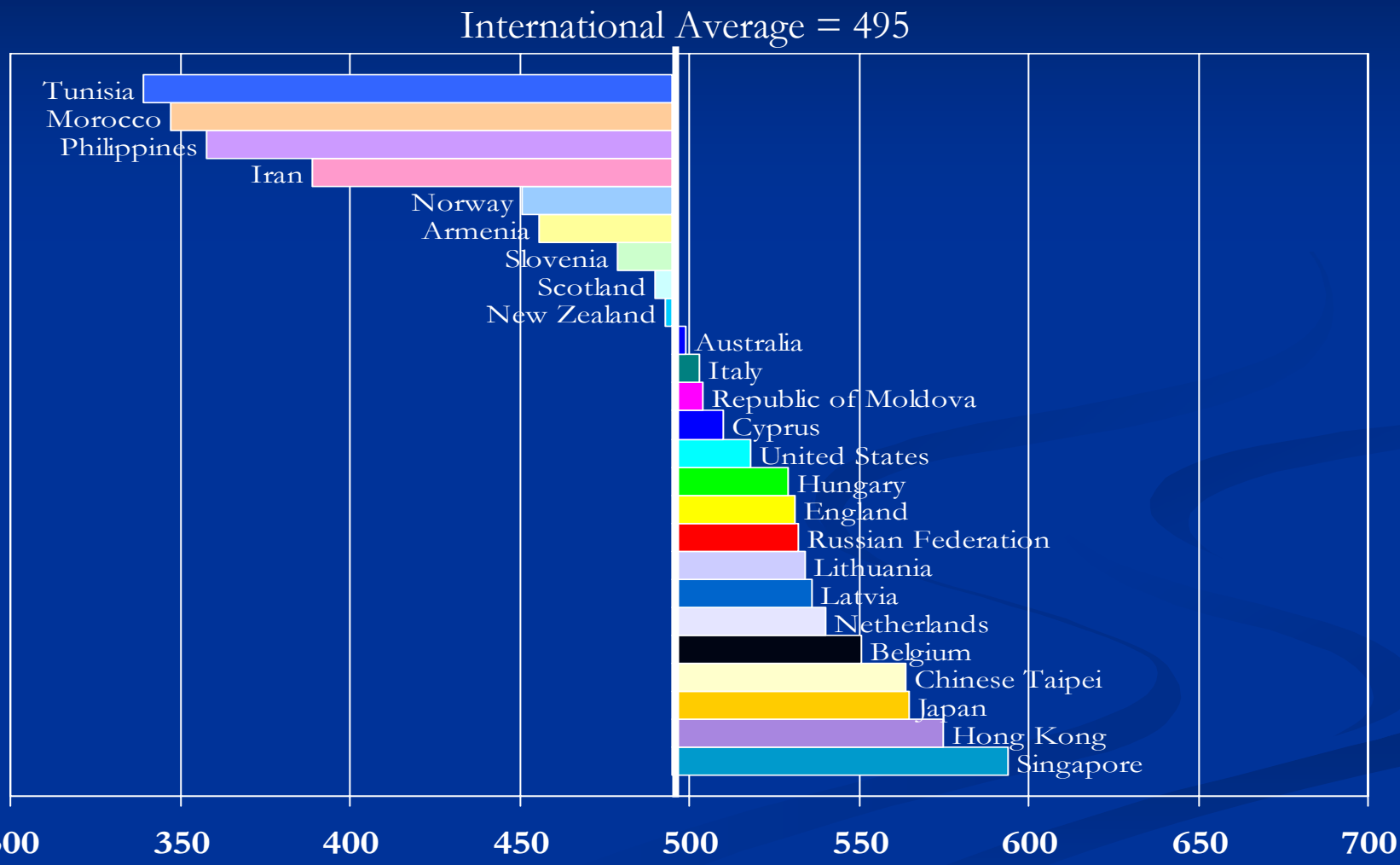
SOURCE: Skinner, Ronald A., "State of the States," *Education Week*, Jan. 6, 2005. Available at: http://www.edweek.org/ew/qc/2005/tables/17achieve-t1.html

Public High School College Readiness Rates by State – 2002



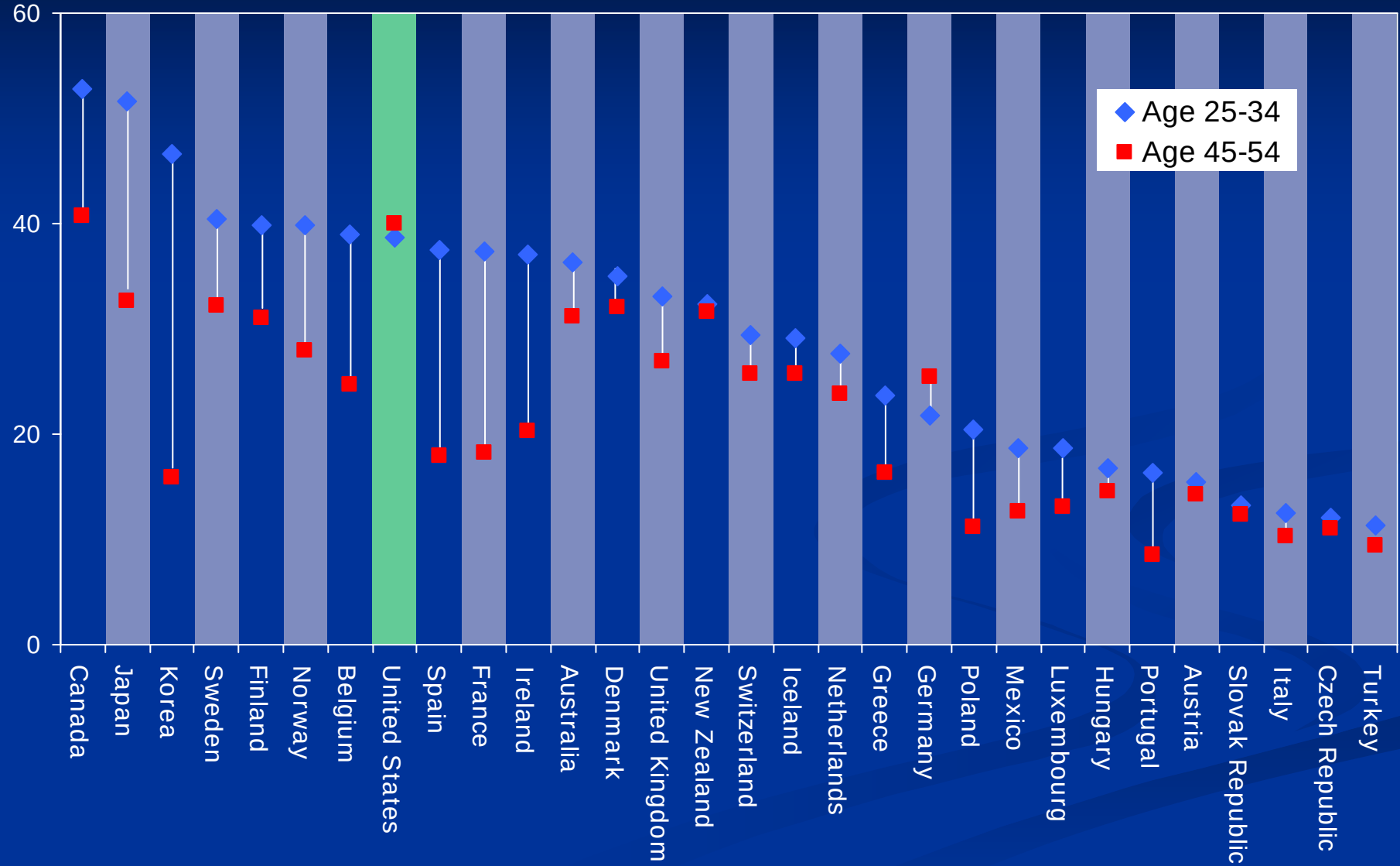
SOURCE: Center for Civic Innovation, Manhattan Institute, *Public High School Graduation and College-Readiness Rates: 1991-2002*, Table 6, No. 8, February 2005

Average Mathematics Score of 4th grade students by country: Around the International Average - 2003



SOURCE: International Association for the Evaluation of Educational Achievement (IEA), Trends in International Mathematics and Science Study (TIMSS), 2003.

Differences in College Attainment (Associate and Higher) Between Young and Older Adults, 2000



Source: Organisation of Economic Cooperation and Development, American Community Survey

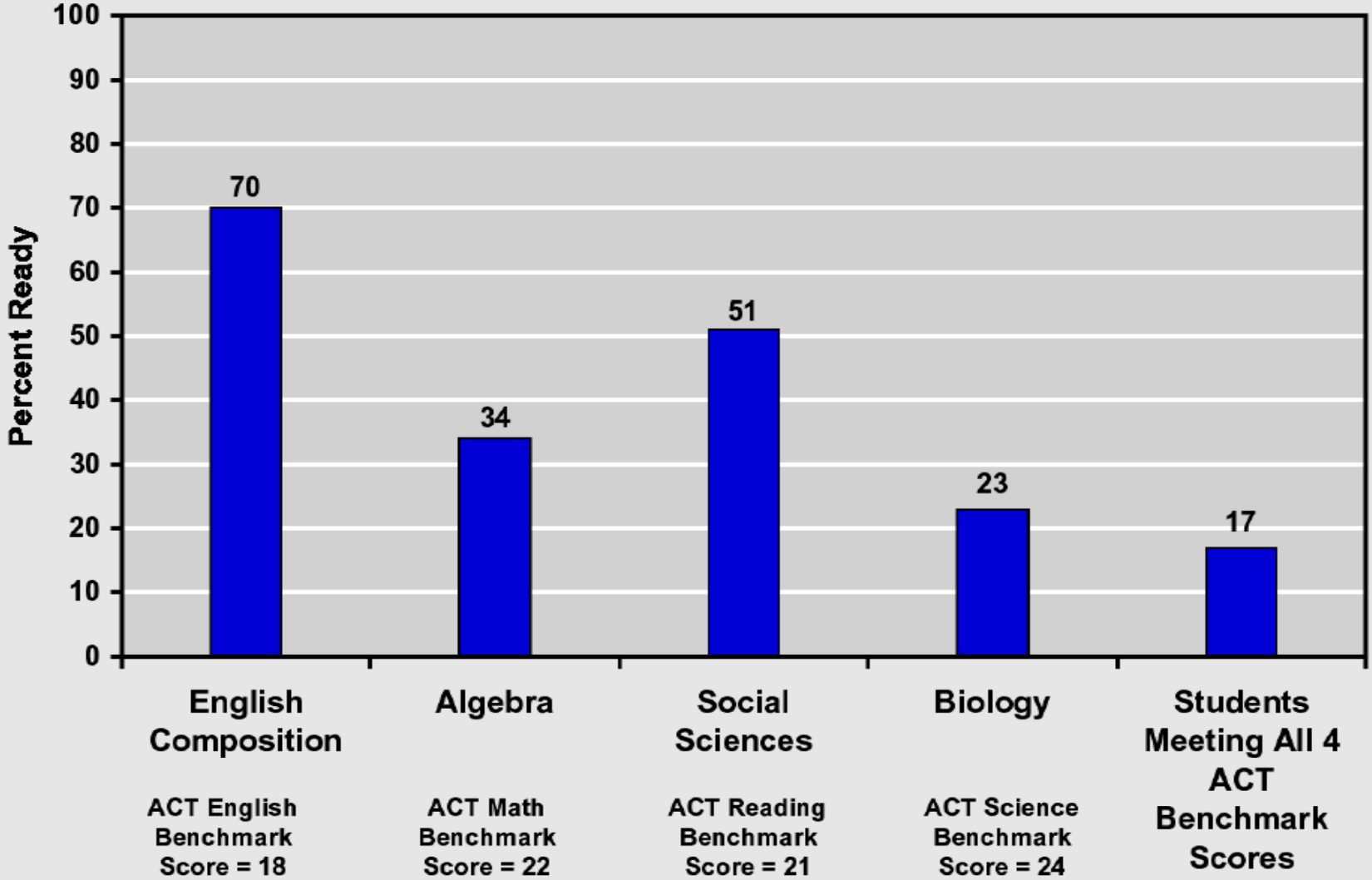
■ACT College Readiness Benchmark Scores

- **Through collaborative research with postsecondary institutions nationwide, ACT has established the following College Readiness Benchmark Scores:**

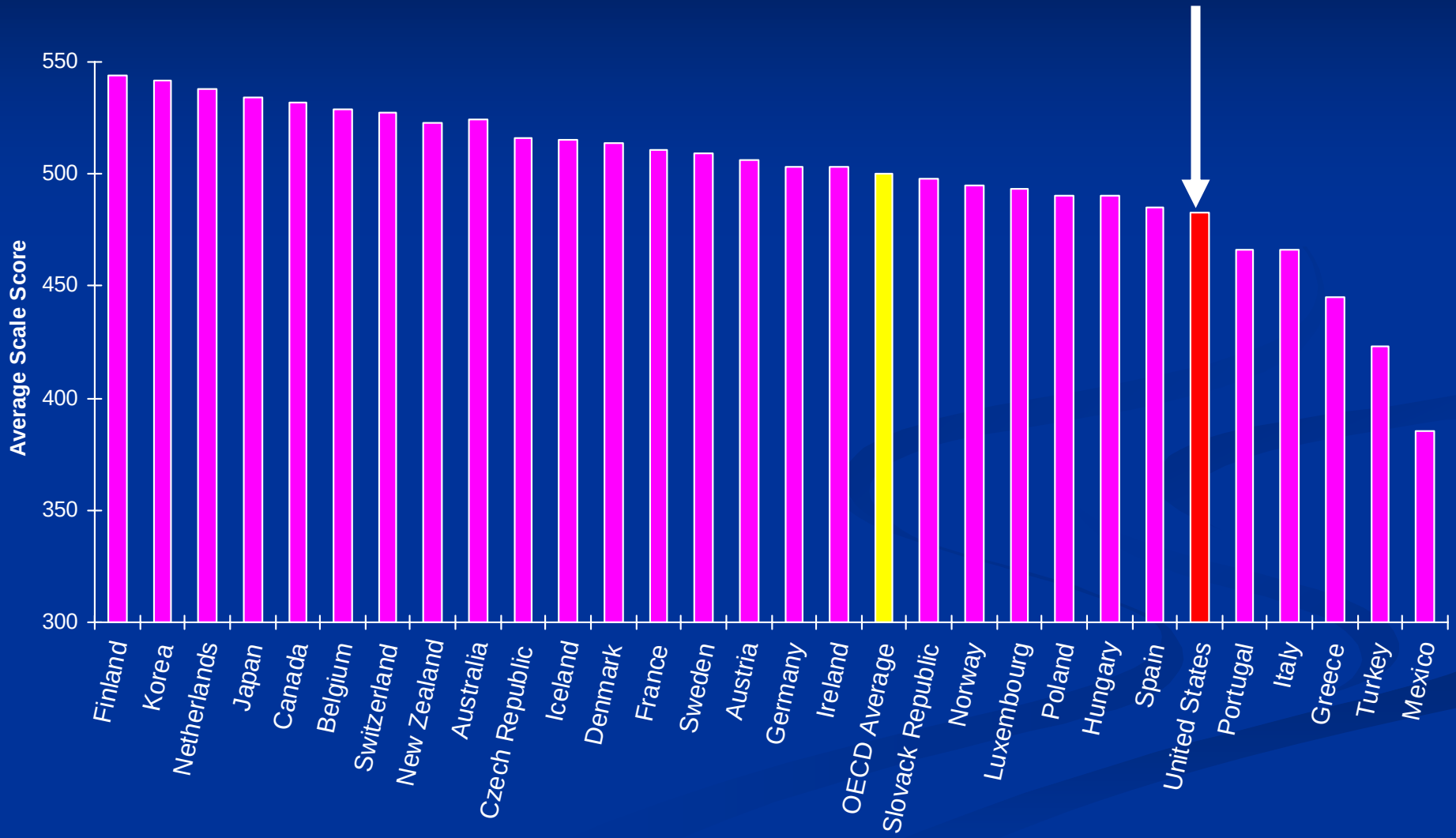
ACT Subject Area Test	College Course(s)	College Readiness Benchmark Score
English	English Composition	18
Math	Algebra	22
Reading	Social Sciences	21
Science	Biology	24

- **A benchmark score is the minimum score needed on an ACT subject area test to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses.**

2006 Tennessee ACT-Tested Graduates Likely to Be Ready for College-Level Work (in percent)

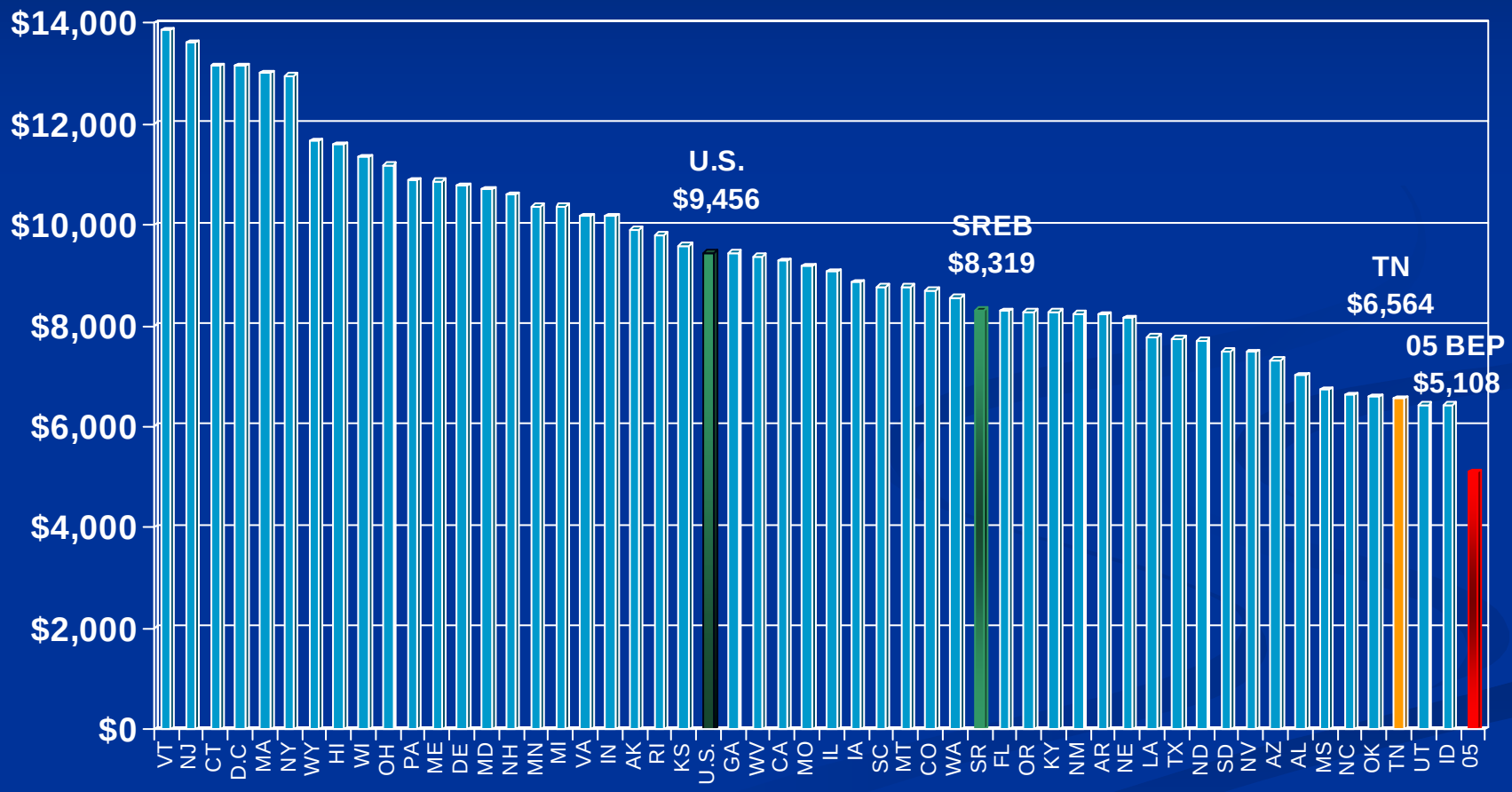


2003: U.S. Ranked 24th out of 29 OECD Countries in Mathematics



Source: Organization for Economic Cooperation and Development (OECD), PISA 2003 Results, data available at http://www.oecd.org/

State and Local Revenues Per Pupil (ADA) – Fiscal Year 2005



SOURCE: NEA Rankings & Estimates 2005, Summary Table I and D
FY05 BEP – Jan Revised, ADA data from Table 7B – Annual Statistical Report

A New Way?

- Build a funding formula around the cost of achieving desired outcomes
- Establish clear lines of accountability
- Provide the right resources and demand performance at high levels of student learning
- Use the statewide tax base to address a statewide issue

Improvements Currently Under Consideration

1. Funding Enhancements
    1. Recognize 100% of K-12 at-risk eligible.
    2. Reduce ESL Ratios from 1/45 Instructors and 1/450 translators to 1/30 and 1/300.
    3. Fully fund growth systems.
    4. Enhance salary unit cost to $40,000 BEP funding level.
2. Structural Changes
    1. Increase state share of instructional salaries from 65% to 75%.
    2. Change method used to calculate the local ability to raise revenues.
    3. Eliminate the Cost Differential Factor.

The Student Pipeline - Tennessee, 2004